

CLAIMS

1. A pharmaceutical composition comprising a mixture of :
  - (a) an active macromolecular principle; and
  - 5 (b) a non-conjugated bile acid or salt; and
  - (c) an additive chosen from propyl gallate, butyl hydroxy anisole (BHA) and analogues and derivatives thereof, or mixtures thereof.
2. A composition according to claim 1, which comprises less than 5% by weight of water.
- 10 3. A composition according to any of claims 1 to 2, wherein the composition is coated with an enteric coating which becomes permeable at a pH from 3 to 7.
4. A composition according to any one of claims 1 to 3, wherein the mixture comprises at least 1% by weight of the additive (c).
- 15 5. A composition according to any one of claims 1 to 4, wherein the ratio by weight of the non-conjugated bile salt/additive (b + c) to active macromolecular principle is at least 5:1.
6. A composition according to any preceding claim, wherein the mixture is in the form of a solution or a microparticulate dispersion.
- 20 7. A composition according to any preceding claim, wherein the mixture is in solid form.
8. A composition according to any one of claims 1 to 7, wherein the active macromolecular principle is a polypeptide or protein, polynucleotide, polysaccharide or a mixture thereof.
- 25 9. A composition according to claim 8, where the active macromolecular principle is chosen from insulin, calcitonin, growth hormone, parathyroid hormone, or erythropoietin, and derivatives and analogues thereof, either synthetic or from natural sources, conforming to structures derived from either human or animal origin.
- 30 10. A composition according to claim 9, where the active macromolecular principle is insulin, calcitonin, parathyroid hormone or a derivative or analogue thereof, either synthetic or from natural sources, conforming to structures derived from either human or animal origin.

11. A composition according to claim 10, wherein the active macromolecular principle is insulin or a derivative or analogue thereof, either synthetic or from natural sources, conforming to structures derived from either human or animal origin, and the composition further comprises an insulin sensitizing agent.

12. A composition according to any preceding claim, wherein the non-conjugated bile acid or salt is chenodeoxycholate.

13. A composition according to any preceding claim, wherein the additive is chosen from propyl gallate or an analogue or a derivative thereof, including esters of gallic acid, where the esters may be linear or branched chain C<sub>1-12</sub> alkyl, C<sub>1-12</sub> alkyloxy, C<sub>1-12</sub> alkylthio or C<sub>2-12</sub> alkenyl esters, and the compounds are optionally substituted with halogen, linear or branched chain C<sub>1-12</sub> alkyl, C<sub>1-12</sub> alkyloxy, C<sub>1-12</sub> alkylthio or C<sub>2-12</sub> alkenyl esters.

14. A composition according to any of claims 1 to 12, wherein the additive is chosen from BHA or an analogue or derivative thereof, including analogues and derivatives of hydroxy anisole where the methyl group or the methoxy group linked to the aromatic ring and/or the hydrogen ortho to the hydroxyl group are replaced by linear or branched chain C<sub>1-12</sub> alkyl, C<sub>1-12</sub> alkyloxy, C<sub>1-12</sub> alkylthio or C<sub>2-12</sub> alkenyl, either unsubstituted or substituted in any position, especially by halogen atoms.

15. A composition according to any preceding claim, for use in the therapeutic or diagnostic treatment of the human or animal body.

16. Use, in a pharmaceutical composition, of a non-conjugated bile acid or salt, together with an additive chosen from propyl gallate and BHA and analogues and derivatives thereof, or mixtures thereof as an enhancer for the absorption of macromolecules across the intestinal wall.

17. Use of a non-conjugated bile acid or salt, together with an additive chosen from propyl gallate and BHA and analogues and derivatives thereof, or mixtures thereof in the manufacture of a medicament containing an active macromolecular principle, in order to enhance absorption of the active macromolecular principle into the human or animal body.

18. Use according to claims 16 or 17, wherein the molecule(s)/active macromolecular principle to be absorbed is a polypeptide or protein, polynucleotide, polysaccharide or a mixture thereof.

19. Use according to claim 18, wherein the molecule(s)/active  
5 macromolecular principle to be absorbed is chosen from insulin, calcitonin, growth hormone, parathyroid hormone, or erythropoietin, and derivatives and analogues thereof, either synthetic or from natural sources, conforming to structures derived from either human or animal origin.

20. Use according to claim 19, wherein the molecule(s)/active  
10 macromolecular principle to be absorbed is insulin, calcitonin, parathyroid hormone or a derivatives or analogue thereof, either synthetic or from natural sources, conforming to structures derived from either human or animal origin.

21. Use according to claim 20, wherein the molecule(s)/active  
15 macromolecular principle to be absorbed is insulin or a derivatives or analogue thereof, either synthetic or from natural sources, conforming to structures derived from either human or animal origin, and an insulin sensitizing agent is also present.

22. Use according to any one of claims 16 to 21, wherein the composition comprises less than 5% by weight of water.

23. Use according to claims 16 to 21, which comprises incorporating the  
20 active macromolecular principle(s) to be absorbed into the aromatic alcohol in the form of a solution, as a microparticulate dispersion or as a solid.

24. A method of enhancing the absorption of an active macromolecular principle in a patient, which method comprises administering to said patient a composition as defined in any one of claims 1 to 15.

25. A method of treating a patient suffering from a condition or disease  
25 treatable by administration of a composition according to any of claims 1 to 15.